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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,750	02/06/2002	Hideki Kishi	2002_0210A	4772

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EXAMINER

LUK, LAWRENCE W

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/066,750

Applicant(s)  
Kishi et al.

Examiner  
Lawrence Luk

Art Unit  
2838



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7, 9, 10, and 12 is/are rejected.
- 7) ☒ Claim(s) 3, 6, 8, and 11 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☒ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 2 and 10 objected to because of the following informalities: the sentence “the learning capacity is decreased, is the learning capacity of the battery” incorrect grammar.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Phuoc et al. (5,796,239) in combination with Stadnick et al. (5,283,512).

In regard to claim 1, van Phuoc et al. discloses the method as claimed, except for degradation capacity per charge of the one cycle. Specifically, van Phuoc et al. discloses a residual capacity correction method for a battery comprising: making a count of one cycle each time an accumulated quantity of a charge capacity of a battery reaches a set capacity (refer to col. 30, line 14-40); and decreasing a learning capacity by a specified cycle (refer to col.7, lines 34-47).

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Stadnick et al. shows the degradation capacity per charge of the one cycle (refer to col.7, lines 1-5).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of van Phuoc et al. to include the degradation capacity per charge of the one cycle as taught by Stadnick et al. for the purpose of calculating a usable residual time of cycles.

In regard to claims 2 and 10, van Phuoc et al. shows the set capacity at which the count of the cycle is made and the learning capacity is decreased (refer to col.24, lines 10-14).

In regard to claims 5 and 7, van Phuoc et al. shows a decreasing rate of the learning capacity as a keeping degradation capacity while keeping temperature and a residual capacity of the battery are used as parameters (refer to col.27, lines 35-45); and decreasing, as keeping time passes, the learning capacity by the keeping degradation capacity specified from the temperature and the residual capacity of the battery (refer to col.8, lines 29-39).

In regard to claim 9, van Phuoc et al. shows a count of one cycle is made each time an accumulated quantity of a charge capacity of the battery reaches a set capacity (refer to col.7, lines 34-47 and col.30, lines 45-60).

4. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Phuoc et al. (5,796,239) in combination with Stadnick et al. (5,283,512) as discussed above, and further in combination with Hagiwara et al. (6,114,836).van Phuoc et al. and Stadnick et al.

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disclose the method as claimed, except for the battery is a lithium ion secondary battery.

Hagiwara et al. shows the battery is a lithium ion secondary battery (refer to col.1, lines 24).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of van Phuoc et al. and Stadnick et al. to include the battery is a lithium ion secondary battery as taught by Hagiwara et al. for the purpose of providing the battery pack is a lithium ion.

*Allowable Subject Matter*

5. Claims 3, 6, 8 and 11 are objected to as being dependent upon a rejected base claim. The prior art of record fails to teach or reasonably suggest that a residual capacity for a battery is keeping degradation capacity per unit time and the cycle degradation capacity is made 0.003 to 0.15% of the learning capacity of the battery. Claims 3, 6, 8 and 11 would be allowable if rewritten in independent form including all of the limitations of the base claim.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Luk at telephone number (703)305-0617. Any inquiry of a general nature or relating to the status of this application proceeding should be directed to the Group receptionist whose telephone number is (703)305-1782.

LWL

Nov 15, 2002

*Lawrence Luk*  
*examiner*  
*11/15/02*